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Assessment of healthcare management practices and constraints among goat farmers in Karauli District of Rajasthan

¹Vikas Kumar Meena, ¹Ramesh Pandey, ¹Paramveer Palriya, ¹Harijana Kaveri, ²Divyanshu Sharma and ²Bhupender

¹Department of Animal Husbandry and Dairying, Sam Higginbottom University of Agriculture, Technology & Sciences, Prayagraj, Uttar Pradesh, India

²Livestock Production Management Division, ICAR - National Dairy Research Institute, Karnal, Haryana, India

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Corresponding Author: Bhupender

Abstract

The present study was conducted during 2024–2025 to assess the healthcare management practices adopted by goat farmers in Karauli district of Rajasthan. A total of 120 goat farmers were selected through simple random sampling from Karauli and Sapotara tehsils (60 respondents from each tehsil). Data were collected through personal interviews using a pre-tested structured interview schedule and analyzed using frequencies, percentages, and Chi-square (χ^2) test.

The findings revealed that the adoption of scientific healthcare practices among goat farmers was generally low. Only 9.17% of respondents practiced isolation of sick animals, 16.67% followed shed sanitization, 27.50% adopted vaccination, and 21.67% practiced deworming for internal parasite control. Regarding ectoparasite management, only 16.67% of farmers used control measures, while the majority (83.33%) did not adopt any method. Most farmers (62.50%) relied on local quacks for treatment of sick animals, whereas only 16.67% approached veterinary professionals. Scientific carcass disposal through deep burial was practiced by only 6.67% of respondents. Similarly, regular cleaning of water troughs and mangers was adopted by only 6.67% of farmers. The Chi-square analysis revealed no significant association ($p > 0.05$) between healthcare practices and the two tehsils, indicating similar healthcare management patterns across the study area.

The major constraints affecting adoption of scientific healthcare practices were costly veterinary treatment (MPS = 95.17, Rank I), followed by lack of veterinary services in villages (MPS = 89.33, Rank II), parasitic problems in goats (MPS = 86.83, Rank III), lack of knowledge about deworming (MPS = 84.75, Rank IV), and lack of knowledge regarding healthcare practices (MPS = 80.38, Rank V).

The study concluded that inadequate awareness, limited veterinary accessibility, and economic constraints are major factors restricting the adoption of scientific healthcare practices among Karauli goat farmers. Strengthening veterinary extension services, improving farmer awareness, and ensuring affordable and timely veterinary support are essential for improving goat health, productivity, and livelihood security in the region.

Keywords: Karauli goats, healthcare practices, vaccination, deworming, veterinary services, constraints

1. Introduction

Goat husbandry plays a vital role in the livestock sector of India, particularly in the livelihoods of small and marginal farmers residing in arid and semi-arid regions (Kakraliya *et al.*, 2025) ^[9]. Owing to their remarkable adaptability, low initial investment, high reproductive efficiency, and ability to thrive under harsh climatic conditions, goats serve as an important source of income, nutrition, and financial security for rural households (Kumar *et al.*, 2010) ^[12]. They contribute substantially to the production of milk, meat, manure, and skin, thereby supporting food security and enhancing the socio-economic status of resource-poor farmers. Rajasthan possesses the largest goat population in India and is endowed with several well-adapted indigenous goat breeds that make a significant contribution to the state's rural economy (Singh & Singh, 2025) ^[19].

The productivity and profitability of goat farming are greatly influenced by the health status of the animals. Scientific healthcare management practices, including isolation of diseased animals, maintenance of hygienic

housing conditions, regular vaccination, strategic deworming, effective ectoparasite control, timely veterinary treatment, proper carcass disposal, and sanitation of feeding and watering equipment, play a crucial role in preventing infectious and parasitic diseases. Adoption of these practices minimizes mortality, improves growth and reproductive performance, enhances milk production, and ultimately increases farmers' income.

Despite the proven benefits of scientific healthcare management, the adoption of recommended practices among rural goat farmers remains inadequate in many parts of India. Limited awareness, poor access to veterinary healthcare services, inadequate extension support, financial constraints, and reliance on traditional ethnoveterinary practices often hinder the implementation of improved health management measures. Consequently, disease outbreaks, parasitic infestations, and preventable health disorders continue to reduce the productive potential of goats maintained under traditional production systems.

Karauli district of Rajasthan has a considerable population

of indigenous goats reared predominantly under extensive and semi-intensive management systems. However, Despite the economic importance of goat farming, systematic information on healthcare management practices followed by goat farmers in Karauli district is lacking. Such information is essential for developing effective extension programmed and improving goat productivity. Assessing the existing healthcare practices is therefore essential for identifying gaps in scientific management, understanding farmers' adoption behavior, and formulating appropriate extension interventions aimed at improving goat health and productivity (Dhaliwal *et al.*, 2022) ^[5]. The present study was undertaken to assess the healthcare management practices adopted by Karauli goat farmers in Karauli district of Rajasthan. Therefore, the present investigation was undertaken to assess healthcare management practices adopted by Karauli district of Rajasthan.

Materials and Methods

Study area

The study was conducted during 2025–2026 in Karauli district of Rajasthan, India. The district was purposively selected because of its sizeable population of indigenous goats. Among the tehsils of the district, Karauli and Sapotara were selected for the study owing to their relatively higher concentration of goat-rearing households and indigenous goat populations.

Selection of respondents

A total of 120 goat farmers were selected using a simple random sampling technique, comprising 60 respondents each from Karauli and Sapotara tehsils. Only those farmers who possessed goats and were actively engaged in goat rearing at the time of the survey were included in the study.

Data collection

Primary data were collected through personal interviews using a pre-tested and well-structured interview schedule. Each respondent was personally contacted at his or her farm, and information regarding healthcare management practices was recorded based on farmers' responses. The interview schedule included questions related to the isolation of sick animals, sanitization of goat sheds, vaccination practices, deworming and frequency of deworming, ectoparasite control measures, treatment of sick animals, hair clipping, disposal of dead animals, and the cleaning frequency of water troughs and mangers. The collected information was carefully scrutinized for completeness and consistency before coding and tabulation.

Statistical analysis

The collected data were coded, classified, and analyzed using descriptive statistical methods. Frequencies and percentages were calculated to describe the adoption of different healthcare management practices. The Chi-square (χ^2) test was employed to determine the association between healthcare management practices and the two study tehsils. Statistical significance was assessed at the 5% probability level ($p < 0.05$). Statistical analyses were performed using SPSS version 26.0.

Results and Discussion

The healthcare management practices adopted by Karauli

goat farmers are presented in Table 1. The findings indicated a generally low adoption of recommended scientific healthcare practices among goat farmers in the study area.

Isolation of Sick Animals

The results presented in Table 1 indicated that only 9.17% of the respondents adopted the practice of isolating sick animals from the healthy flock, while the majority (90.83%) did not follow this important preventive healthcare measure. In Karauli tehsil, only 6.67% of the farmers isolated sick animals compared to 11.67% in Sapotara tehsil. The difference between the two tehsils was statistically non-significant ($\chi^2 = 0.90$). Similar findings were reported by Deshpande *et al.* (2009), Sabapara *et al.* (2014) ^[17], Gameti (2018) ^[6], Kumar *et al.* (2018) ^[13], and Kakraliya *et al.* (2022c) ^[8], who observed poor adoption of isolation practices among goat farmers. In contrast, Varadharajan reported that 84.17% of goat keepers in coastal Tamil Nadu isolated sick animals from the rest of the flock.

Sanitization of Shed

The data presented in Table 1 revealed that only 16.67% of the respondents regularly sanitized their animal sheds, while 83.33% did not practice proper shed sanitation. The adoption rate was 10.00% in Karauli tehsil and 23.33% in Sapotara tehsil. However, no significant association was observed between the two tehsils ($\chi^2 = 3.84$). These findings Agree with those of Kumar *et al.* (2018) ^[13], who reported that 81.66% of goat farmers in the north-west semi-arid region of Rajasthan did not sanitize their sheds. Similar observations were also reported by Bagri (2022) ^[2].

Vaccination

It is Shown from Table 1 that only 27.50% of the respondents vaccinated their goats against infectious diseases, whereas 72.50% did not adopt vaccination practices. In Karauli tehsil, 21.67% of the respondents vaccinated their animals compared to 33.33% in Sapotara tehsil. The association between vaccination practices and tehsils was found to be non-significant ($\chi^2 = 2.00$). The association between vaccination practices and tehsils was non-significant ($\chi^2 = 2.00$). Kumar *et al.* (2018) ^[13] similarly reported poor vaccination coverage among goat farmers in Rajasthan, whereas Lavania *et al.* (2014) observed considerably higher adoption (79.00%) in Sirohi district.

Deworming for Internal Parasitic Control

The findings presented in Table 1 showed that 21.67% of the respondents practiced deworming for internal parasite control, whereas 78.33% did not deworm their goats. The proportion of farmers practicing deworming was 16.67% in Karauli tehsil and 26.67% in Sapotara tehsil. The difference between the two tehsils was statistically non-significant ($\chi^2 = 1.76$).

Frequency of Deworming

The frequency of deworming adopted by the respondents is presented in Table 1. Overall, 12.50% of the respondents dewormed their goats once a year, 9.17% dewormed twice a year, whereas 78.33% did not practice deworming at all. In Karauli tehsil, 10.00% of the respondents dewormed once

annually and 6.67% twice annually, while in Sapotara tehsil the corresponding values were 15.00% and 11.67%, respectively. The variation between the two tehsils was statistically non-significant ($\chi^2 = 1.29$).

The Correlation between deworming practices and frequency of deworming with tehsils were non-significant. Similar findings were reported by Tanwar and Rohilla (2012) ^[20] and Yadav, whereas Varadharajan documented substantially higher adoption of regular deworming among goat farmers in Tamil Nadu.

Method of Ectoparasitic Control

The methods adopted for ectoparasite control are presented in Table 1. Only 6.67% of the respondents used the spray method and 10.00% applied insecticidal dusting powder, whereas the majority (83.33%) did not adopt any method of ectoparasite control. In Karauli tehsil, 5.00% of the respondents used spraying and 6.67% used dusting powder, while in Sapotara tehsil the corresponding values were 8.33% and 13.33%, respectively. No significant difference was observed between the two tehsils ($\chi^2 = 1.63$). The association between ectoparasite control methods and tehsils was non-significant. Comparable findings have been reported by Khadda *et al.* (2012) ^[11], Kumawat (2016) ^[14], Kumar *et al.* (2018) ^[13], Singh *et al.* (2018) ^[19].

Treatment of Sick Animals

The treatment practices followed by the respondents are shown in Table 1. The majority (62.50%) relied on local quacks for treating sick animals, 20.83% used indigenous technical knowledge, and only 16.67% sought treatment from a qualified veterinarian or livestock assistant. In Karauli tehsil, 70.00% of the respondents depended on quacks compared with 55.00% in Sapotara tehsil, whereas veterinary services were utilized by only 13.33% and 20.00% of the respondents, respectively. The association between treatment practices and tehsils was statistically non-significant ($\chi^2 = 1.92$).

The association between treatment practices and tehsils was non-significant. The dependence on informal treatment providers may be attributed to poor accessibility of veterinary services, long travel distances to veterinary hospitals, and the high cost of treatment. Similar observations were reported by Islam *et al.* (2018) ^[7], Singh *et al.* (2021) ^[19].

Hair Clipping

The results presented in Table 1 indicated that only 23.33% of the respondents practiced hair clipping, while 76.67% did not. Hair clipping was adopted by 16.67% of the respondents in Karauli tehsil and 30.00% in Sapotara tehsil. However, the difference between the two tehsils was statistically non-significant ($\chi^2 = 2.00$, P). These findings agree with Khadda (2017) ^[10], who also reported poor adoption of hair clipping among goat farmers in Uttarakhand. However, Varadharajan *et al.* (2022) observed higher adoption of hair clipping among goat keepers in coastal Tamil Nadu.

Disposal of Dead Animals

The methods of disposal of dead animals are presented in

Table 1. Only 6.67% of the respondents disposed of dead animals through deep burial, whereas 93.33% left carcasses in the open for natural decomposition or scavengers. Deep burial was practiced by 3.33% of the respondents in Karauli tehsil and 10.00% in Sapotara tehsil. The difference between the two tehsils was statistically non-significant ($\chi^2 = 2.14$, P). Similar observations have been reported by Kumar *et al.* (2018) ^[13]. Carcass disposal, only 6.67% of the respondents practiced deep burial, whereas the majority (93.33%) disposed of dead animals by leaving them outside the village for natural decomposition or scavenger consumption. The association between disposal methods and tehsils was non-significant ($\chi^2 = 2.14$). Similar findings were reported by Tanwar *et al.* (2008) ^[21], while Varadharajan reported a higher prevalence of deep burial practices.

Cleaning of Water Troughs and Mangers

The cleaning practices of water troughs and mangers are presented in Table 1. Only 6.67% of the respondents cleaned water troughs and mangers daily, while 14.17% cleaned them on alternate days and 79.17% cleaned them only once a week. In Karauli tehsil, 5.00% of the respondents cleaned the troughs daily, 11.67% on alternate days and 83.33% weekly. The corresponding values in Sapotara tehsil were 8.33%, 16.67%, and 75.00%, respectively. The association between the two tehsils was statistically non-significant ($\chi^2 = 0.58$, $p > 0.05$). These findings closely agree with those reported by Bagri (2022) ^[2], who documented that most Sojat goat farmers cleaned feeding and watering equipment on a weekly basis.

Overall, the findings demonstrate that scientific healthcare management practices among Karauli goat farmers remain inadequate, particularly regarding disease prevention, parasite control, hygienic housing, carcass disposal, and utilization of veterinary healthcare services. These deficiencies highlight the need for strengthening veterinary extension programmes, improving farmers' awareness, ensuring timely availability of veterinary healthcare facilities, and promoting scientific goat health management practices to enhance animal health and productivity.

The present study provides the first comprehensive documentation of healthcare management practices adopted by indigenous goat farmers of Karauli district. The findings establish baseline information for planning veterinary extension programs and disease control strategies in eastern Rajasthan.

Healthcare Constraints

The major healthcare constraints faced by Karauli goat farmers are presented in Table 2. Costly veterinary treatment was ranked as the most severe constraint (MPS = 95.17), followed by lack of veterinary services in the village (MPS = 89.33, Rank II), parasitic problems in goats (MPS = 86.83, Rank III), lack of knowledge about deworming (MPS = 84.75, Rank IV), and lack of knowledge about healthcare practices (MPS = 80.38, Rank V). Similar findings were reported by Gameti (2018) ^[6] and Bagri *et al.* (2022a) ^[2], who also identified costly veterinary treatment and inadequate veterinary services as major constraints affecting scientific goat healthcare practices.

Table 1: Healthcare Practices Adopted by Karauli Goat Farmers

S. No.	Healthcare Practices	Karauli Tehsil (n1=60)	Sapotara Tehsil (n2=60)	Overall (N=120)	χ^2 value
1.	Isolation of sick animals				
A.	Yes	4	7	11	0.90
		(6.67)	(11.67)	(9.17)	
B.	No	56	53	109	
		(93.33)	(88.33)	(90.83)	
2.	Sanitization of shed				
A.	Yes	6	14	20	3.84
		(10.00)	(23.33)	(16.67)	
B.	No	54	46	100	
		(90.00)	(76.67)	(83.33)	
3.	Vaccination				
A.	Yes	13	20	33	2.0
		(21.67)	(33.33)	(27.50)	
B.	No	47	40	87	
		(78.33)	(66.67)	(72.50)	
4.	Deworming for internal parasitic control				
A.	Yes	10	16	26	1.76
		(16.67)	(26.67)	(21.67)	
B.	No	50	44	94	
		(83.33)	(73.33)	(78.33)	
5.	Frequency of deworming in a year				
A.	Once	6	9	15	1.29
		(10.00)	(15.00)	(12.50)	
B.	Twice	4(6.67)	7(11.67)	11(9.17)	
C.	No	50	44	94	
		(83.33)	(73.33)	(78.33)	
6.	Method of ectoparasitic control				
A.	By spray method	3(5.00)	5(8.33)	8(6.67)	1.63
B.	By dusting insecticides powder	4(6.67)	8(13.33)	12(10.00)	
C.	None of above	53(88.33)	47(78.33)	100(83.33)	
7.	Treatment of sick animals				
A.	Use of indigenous technical knowledge	10(16.67)	15(25.00)	25(20.83)	1.92
B.	Calling a quack	42(70.00)	33(55.00)	75(62.50)	
C.	By veterinary doctor/Livestock assistant	8(13.33)	12(20.00)	20(16.67)	
8.	Hair clipping				
A.	Yes	10(16.67)	18(30.00)	28(23.33)	2.0
B.	No	50(83.33)	42(70.00)	92(76.67)	
9.	Disposal of dead animals				
A.	Deep burial	2(3.33)	6(10.00)	8(6.67)	2.14
B.	Leaves as such for decay/vultures	58(96.67)	54(90.00)	112(93.33)	
10.	Cleaning water trough and mangers				
A.	Daily	3(5.00)	5(8.33)	8(6.67)	0.58
B.	Alternate day	7(11.67)	10(16.67)	17(14.17)	
C.	Weekly	50(83.33)	45(75.00)	95(79.17)	

(*Significant ($p < 0.05$), **Significant ($p < 0.01$) (Figure in parenthesis indicate percentage)**Table 2:** Healthcare Constraints

S. No.	Statement	MPS	Rank
1	Parasitic problem in goat	86.83	III
2	Lack of knowledge about deworming	84.75	IV
3	Lack of veterinary services in the village	89.33	II
4	Costly veterinary treatment	95.17	I
5	Lack of knowledge about healthcare	80.38	V

MPS= mean per cent score

Conclusion

The study revealed that scientific healthcare practices among Karauli goat farmers were poorly adopted due to

lack of awareness, inadequate veterinary services, and high treatment costs. Improved veterinary accessibility, regular health awareness programmes, and promotion of preventive healthcare measures are required to enhance goat health, productivity, and farmer income.

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Conflict of Interest

The authors declare that they have no conflict of interest.

References

1. APEDA. Annual report 2023-24. New Delhi: Agricultural and Processed Food Products Export Development Authority, Ministry of Commerce & Industry, Government of India; 2023-2024.
2. Bagri DK. Studies on body characteristics, performance and management practices of Sojat goat in Rajasthan. Udaipur (RJ): Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology; 2022.
3. Basic Animal Husbandry & Fisheries Statistics. Animal Husbandry Statistics Division. New Delhi: Department of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry & Dairying, Government of India; 2024.
4. Department of Animal Husbandry and Dairying. Annual report 2023-24. New Delhi: Ministry of Fisheries, Animal Husbandry & Dairying, Government of India; 2023-2024.
5. Dhaliwal ADS, Kasrija R, Singh P, Jadoun YS. A collating study for health and management practices followed by stall-fed and extensive rearing goat farmers of Punjab.
6. Gameti RK. Studies on goat management practices of tribal in Dungarpur district of Rajasthan. Udaipur (RJ): College of Veterinary and Animal Science, Rajasthan University of Veterinary and Animal Sciences; 2018.
7. Islam MA, Hossain MA, Chokrabarti SS, Rahman S, Tasnim A, Zahir AA. Socio-economic profile of goat rearing farmers and their management practices in Sylhet, Bangladesh. *J Agric Ecol Res Int*. 2018;15(4):1-10.
8. Kakraliya AL, Pandey R, Tatarwal JM, Chopra G, Serawat R. Production and management practices of goat farming in Sirohi district, India. *Asian J Agric Ext Econ Sociol*. 2022;40(2):76-81.
9. Kakraliya AL, Jat H, Pandey R, Nodal P, Meena ML, Parihar A. Feeding, housing, healthcare and marketing constraints practices of goat farming in Sirohi tehsil district of Rajasthan, India. *J Exp Agric Int*. 2025;47(5):375-381.
10. Khadda BS. Study on various goat production systems in Tarai region with special reference to Pantja goats. Pantnagar (UK): G.B. Pant University of Agriculture and Technology; 2017.
11. Khadda BS, Lata K, Jadav JK, Kalash P, Kumar R. Impact of technological interventions on the attitude of goat rearing farmers in Panchmahals.
12. Kumar S, Rao CAR, Kareemulla K, Venkateswarlu B. Role of goats in livelihood security of rural poor in the less favoured environments. 2010.
13. Kumar V, Berwal R, Choudhary ML. Health care practices by goat keepers across the flock size in north-west semi-arid region of Rajasthan. *Int J Vet Sci Anim Husb*. 2018;3(1):27-29.
14. Kumawat M. Current status of goat management in Jobner area of Jaipur district. Jobner (RJ): S.K.N. College of Agriculture, Sri Karan Narendra Agriculture University; 2016.
15. Lal S, Gupta L, Mishra S, Kumar V, Kumar D, Chopra G. Socio-economic status of native goat farmers in Bundi and Tonk districts of Rajasthan. *Ecol Environ Conserv*. 2025;31.
16. ICAR-National Bureau of Animal Genetic Resources. Two new breeds of goat registered by ICAR-National Bureau of Animal Genetic Resources. Karnal (HR): ICAR-NBAGR; 2025.
17. Sabapara GP, Kharadi VB, Sorathiya LM. Prevalent feeding and breeding management practices of goats in Navsari district, Gujarat. *Indo Am J Agric Vet Sci*. 2014;2(4):59-66.
18. Sarkar TK, Verma AK, Thakur V, Maurya PK, Gautam S, Varun VK, *et al*. Herd health management and animal welfare: A review. *J Anim Res*. 2023;13(5):643-651.
19. Singh S, Kasrija R, Singh P. Reckoning health care and management practices knowledge of goat farmers of Punjab. *Int J Curr Microbiol Appl Sci*. 2020;9(2):2866-2871.
20. Tanwar PS. Constraints perceived by goat keepers in adoption of goat husbandry practices in semi-arid Rajasthan. *J Community Mobil Sustain Dev*. 2011;6(1):108-111.
21. Tanwar PS, Vaishanava CS, Jain LS. Studies on housing and breeding management practices adopted by goat owners in tribal area of Udaipur district. *Indian J Anim Res*. 2007;41(1):59-61.